

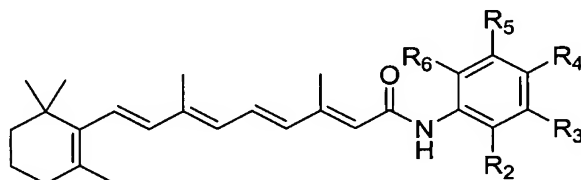
Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-4 (Canceled)

Claim 5. (Currently Amended) ~~An arylretinamide for inducing apoptosis in a cancer cell, said arylretinamide having Structure A, B, or C below:~~ A compound according to the formula:



Structure A

wherein

R₂ is a member selected from the group consisting of H, OH, NO₂, CH₂-OH, CH₂OH, a halide, ~~or~~ and an alkyl comprising 1-4 carbon atoms,

R₃ is a member selected from the group consisting of H, OH, NO₂, CO₂CH₃, CO₂CH₂CH₃, CO₂(CH₂)₂CH₃, CO₂(CH₂)₃CH₃, CO₂H, CH₂OH, a halide, ~~or~~ and an alkyl comprising 1-4 carbon atoms;

R₄ is a member selected from the group consisting of H, OH, OCH₃, OCH₂CH₃, O(CH₂)₂CH₃, O(CH₂)₃CH₃, SO₂CH₃, SO₂CH₂CH₃, SO₂(CH₂)₂CH₃, SO₂(CH₂)₃CH₃, NH₂, NHCOCH₃, NHCOCH₂CH₃, NHCO(CH₂)₂CH₃, NHCO(CH₂)₃CH₃, NHCOCF₃, N₃, NCS, NO₂, a halide, an alkyl comprising 1-4 carbon atoms, ~~or~~ and NHCOCH₂X, wherein X is a halide;

R₅ is a member selected from the group consisting of H, NO₂, C(CH₃)₃, C(CH₂CH₃)₃, C((CH₂)₂CH₃)₃, C((CH₂)₃CH₃)₃, CO₂CH₃, CO₂CH₂CH₃, CO₂(CH₂)₂CH₃, CO₂(CH₂)₃CH₃, a halide, ~~or~~ and an alkyl comprising 1-4 carbon atoms, and

R_6 is a member selected from the group consisting of H, CO_2H , CO_2CH_3 , $\text{CO}_2\text{CH}_2\text{CH}_3$, $\text{CO}_2(\text{CH}_2)_2\text{CH}_3$, $\text{CO}_2(\text{CH}_2)_3\text{CH}_3$, a halide or and an alkyl comprising 1-4 carbon atoms;

~~provided however that when R_2 , R_3 , R_5 , and R_6 are all H, R_4 is not OH or OCH_2CH_3 ;~~
~~and also~~

provided that the phenyl moiety is not mono-substituted with CH_3 at R_2 or R_6 ,

provided that the phenyl moiety is not mono-substituted with OH or CO_2H ,

provided that the phenyl moiety is not mono-substituted with halide or OCH_2CH_3 at

R_4 ,

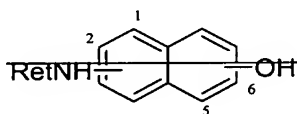
provided that the phenyl moiety is not mono-substituted with NO_2 or halide at R_3 or

R_5 ,

provided that the phenyl moiety is not mono-substituted with CO_2CH_3 at R_6 ,

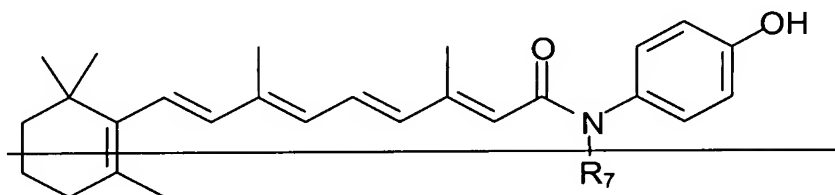
provided that when R_3 , R_5 , and R_6 are all H, and R_2 is OH, R_4 is not CO_2CH_3 ; and

provided that the phenyl moiety is not di-substituted with CH_3 at R_3 , R_4 or R_5 .



Structure B

~~wherein the OH group is at position 2, 4, or 5 when the retinamido group is at linked to position 1, and the OH group is at position 3 when the retinamido group is linked to position 2.~~



Structure C

~~wherein R_7 is C_1 -to- C_4 alkyl.~~

Claim 6. (Withdrawn) The arylretinamide of claim 5 wherein the arylretinamide is a halohydroxyphenyl retinamides which comprises a phenyl moiety that is optionally substituted with an alkyl group.

Claim 7. (Currently Amended) The arylretinamide compound of claim 6 wherein the ~~phenyl moiety is substituted with a methyl group~~ at least one of R₂, R₃, R₄, R₅ and R₆ is CH₃.

Claim 8. (Withdrawn) The arylretinamide of claim 6 wherein the halo group is an iodo group.

Claim 9. (Withdrawn) The arylretinamide of claim 5 wherein the arylretinamide is a hydroxy-alkylphenyl retinamides or hydroxy-alkoxyphenyl retinamide, wherein the alkyl groups attached to the phenyl moiety comprise from 1 to 4 carbon atoms.

Claim 10. (Withdrawn) The arylretinamide of claim 9 wherein the arylretinamide is a hydroxy-methylphenyl or hydroxy-methoxyphenyl retinamide.

Claim 11. (Original) The arylretinamide compound of claim 5 ~~is a hydroxy-nitrophenyl retinamides or alkylsulfonyl hydroxy retinamides~~ wherein at least one of R₂, R₃ or R₄ is OH and and at least one of R₂, R₃ R₄ or R₅ is NO₂; or wherein at least one of R₂, R₃ and R₄ is OH, at least one of R₂, R₃ R₄, R₅ or R₆ is the alkyl, and R₄ is SO₂CH₃, SO₂CH₂CH₃, SO₂(CH₂)₂CH₃ or SO₂(CH₂)₃CH₃.

Claim 12. (Withdrawn) The arylretinamide of claim 11 wherein the arylretinamide is an ethylsulfonyl-hydroxy, retinamides.

Claim 13. (Withdrawn) The arylretinamide of claim 5 wherein the arylretinamide is a hydroxy-naphthylphenyl retinamide.

Claim 14. (Withdrawn) The arylretinamide of claim 5 wherein the arylretinamide is an N-alkyl(hydroxyphenyl) retinamides.

Claim 15. (Withdrawn) The arylretinamide of claim 5 wherein the arylretinamide is an aminophenyl retinamides.

Claim 16. (Currently Amended) The arylretinamide compound of claim 5 wherein the arylretinamide is an alkylhydroxyphenyl retinamides wherein at least one of R₂, R₃ and R₄ is OH and at least one of R₂, R₃, R₄, R₅ and R₆ is an alkyl comprising 1-4 carbon atoms.

Claim 17. (Withdrawn) The arylretinamide of claim 5 wherein the arylretinamide is a carboxy-hydroxyphenyl retinamides selected from the group consisting of *N*-(2'-hydroxy-3'-carboxymethylphenyl)retinamide, *N*-(2'-hydroxy-3'-carboxyphenyl)retinamide, *N*-(2'-hydroxy-6'-carboxymethylphenyl)retinamide, *N*-(2'-hydroxy-6'-carboxyphenyl)retinamide, *N*-(3'-hydroxy-4'-carboxymethylphenyl)retinamide, *N*-(3'-hydroxy-4'-carboxyphenyl)retinamide, *N*-(2'-hydroxy-5'-carboxymethylphenyl)retinamide, *N*-(2'-hydroxy-4'-carboxyphenyl)retinamide, *N*-(4'-hydroxy-3'-carboxymethylphenyl)retinamide, and *N*-(4'-hydroxy-3'-carboxyphenyl)retinamide.

Claim 18. (Canceled)

Claim 19. (Currently Amended) A method of inducing apoptosis in a human breast cancer cell cells comprising contacting the cancer cell with an arylretinamide the compound of any one of claims 5-17 ~~claim 1~~.

Claim 20. (Currently Amended) A method of treating human breast cancer in a subject in need of said treatment, comprising administering ~~one or more arylretinamides of claim 1~~ to the subject the compound of any one of claims 5-17.

Claim 21. (Withdrawn) The method of claim 20 wherein said method further comprises administering calcium glucarate to the subject.